In Appreciation of the Life and Scientific Activity (Cont.)

study of the territory along the Murmansk railroad; during 1918-1924 he carried out a geological survey of the Kirov district, the results of which are found mostly on Sheet 107 of the ten-verst geological map; for this he received the przheval'ski Great Gold Medal in 1930. In 1925 Kassin devised a paleontologically oriented stratigraphic system for the structure of Central Kazakhstan. A group of geologists working under his supervision was the first to establish the paleontological characteristics of the Cambrian and Ordovician deposits, the complex of extrusive formations of the Silurian-Devonian, and also of the pre-Paleocene deposits in northeastern Kazakhstan. Kassin's investigations in Mugodzhary established that a significant part of the section, which had been formerly considered a member of the coal-bearing layer of the Lower Carboniferous, was actually pre-Paleozoic. A number of important metallogenic problems were solved as a result of Kassin's work on determining the age of different intrusions in Central Kazakhstan. He established the lack of congruity in the total scheme of the Caledonian and the Hercynian structures in Central Kazakhstan and clarified the part played by ancient blocks ("platforms" or "masses") in the development of the

In Appreciation of [illegible] Life and Scientific Activity (Cont.)

Caledonian and the Hercynian mineral inclusions of the district. Kassin's observations on the structure of the foundation in the Turgay flexure merit attention. This scientist paid particular attention to the problems of metallogenesis, and the interrelation between metallogenesis and tectonics. He studied the Kazakhstan water resources and the geology of the Karagandin Carboniferous basin.

Card 3/3

D. I. Gordeyev

BOROVIKOV, L.I.

Fossil organism remains in ancient "barren" strata in Kazakhstan.
Biul.VSEGEI no.1:71-81 '58. (MIRA 14:5)
(Kazakhstan—Paleontology)

BOROVIKOV, L.I.

Middle Jurassic sediments in the northeastern part of the Caspian Depression. Izv.AN Kazakh.SSR.Ser.geol. no.3:44-51 '58.
(MIRA 12:1)

(Caspian Depression--Geology, Stratigraphic)

BOBOVIKOV, L.I.

Phosphorites of the Atasu region in central Kazakhstan.
Razved.i okh.nedr 26 no.6:11-13 My '60. (MIRA 13:7)

1. Vsesoyuznyy geologicheskiy nauchno-issledovatel'skiy institut.
(Atasu region(Kazakhstan)—Phosphorites)

ABDULKABIROVA, M.A.; ALEKSANDROVA, M.I.; AFONICHEV, N.A.; BANDALETOV, S.M.; BASPALOV, V.F.; BOGDANOV, A.A.; BOROVIKOV, L.I.; BORSUK, B.I.; BORUKAYEV, R.A.; BUVALKIN, A.K.; BYKOVA, M.S.; DVORTSOVA, K.I.; DEMBO, T.M.; ZHUKOV, M.A.; ZVONTSOV, V.S.; IVSHIN, N.K.; KOPYATKEVICH, R.A.; KOSTENKO, N.N.; KUMPAN, A.S.; KURDYUKOV, K.V.; LAVROV, V.V.; LYAPICHEV, G.F.; MAZURKEVICH, M.V.; MIKHAYLOV, A.Ye.; MIKHAYLOV, N.P.; MYCHNIK, M.B.; NIDLENKO, Ye.N.; NIKITIN, I.F.; NIKIFOROVA, K.V.; NIKOLAYEV, N.I.; PUPYSHEV, N.A.; RASKATOV, G.I.; RENGARTEN, P.A.; SAVICHEVA, A.Ye.; SALIN, B.A.; SEVRYUGIN, N.A.; SEMENOV, A.I.; CHERNYAKHOVSKIY, A.G.; CHUYKOVA, V.G.; SHLYGIN, Ye.D.; SHUL'GA, V.M.; EL'GER, E.S.; YAGOVKIN, V.I.; NALIVKIN, D.V., akademik, red.; PERMINOV, S.V., red.; MAKUSHIN, V.A., tekhn.red.

[Geological structure of central and southern Kazakhstan] Geologicheskoe stroenie TSentral'nogo i IUzhnogo Kazakhstana. Leningrad, Otdel nauchno-tekn.informatsii, 1961. 496 p. (Leningrad. Vsesoiuznyi geologicheskii institut. Materialy, no.41) (MIRA 14:7)

(Kazakhstan--Geology)

BOROVIKOV, L.I.; KRYS'KOV, L.N.

Cambrian sediments in the Kendyktas Mountains (southern Kazakhstan). Dokl. AN SSSR 151 no.3:644-647 Jl '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut. Predstavleno akademikom A.L.Yanshinym.
(Kenduktas Mountains--Geology, Stratigraphic)

BOROVIKOV, L.I.; KRYS'KOV, L.N.

Cambrian sediments in the Kendyktas Mountains (southern Kazakhstan). Trudy VSEGEI 94:266-280 '63. (MIRA 17:6)

SPIZHARSKIY, T.N.; GROMOV, Yu.Ya.; Prinimali uchastiye: BOROVIKOV, L.I.; BORSUK, B.I.; GORELSKAYA, Ye.N.; ZHUNTOV, Ye.I.; SALOP, L.I.; SHTAL', N.V.

Paleotectonic maps and the methods for plotting them. Metod. paleogeog. issl. no.1:238-247 '64. (MIRA 18:6)

BOROVIKOV, L.I.; SPIZHARSKIY, T.N.

Principles of the division and correlation of Pre-Cambrian sediments. Geol. i geofiz. no.1:21-29 '65. (MIRA 18:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut, Leningrad.

Borovikov, M.

SAVCHENKO, P. (Kiyev); KORSHUN, A. (s.Gagino, Gor'kovskaya oblast'); DOLMATOV, P. (Moskva); DOROSHENKO, A. (g.Nikolayev); YEVSEYEV, G. (Simferopol'); SHIROKOV, F. (Vol'sk, Saratovskaya oblast'); BOROVIKOV, M. (Minsk); USHAKOV, B. (Moskovskaya oblast'); SAGAYDAK, I. (Karaganda); NECHIPORENKO, I. (Sumy).

At the fighting stand. Pozh.delo 3 no.10:22-23 O '57. (MIRA 10:11)
(Firemen)

ACC NR: AR6029293 SOURCE CODE: UR/0271/66/000/006/A024/A024

AUTHOR: Borovikov, M. A.

TITLE: Some problems in the design of electric drives according to the MUS-D system

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 6A189

REF SOURCE: Izv. Tomskogo politekhn. in-ta, v. 153, 1965, 131-141

TOPIC TAGS: electric motor, motor generator, magnetic amplifier

ABSTRACT: The problems associated with the design of regulated drives using standard magnetic amplifiers and dc motors are analyzed. The motor is selected according to the waveshape coefficient of the current in the armature circuit. For single-phase circuits it is 1.25 -- 1.3 and 1.01 -- 1.04 for the three-phase circuits. The magnetic amplifiers are chosen according to the rectifier circuit and the desired load current. Recommendations are made for the selection of standard magnetic amplifier parameters: supply voltages, working winding current, etc. The recommendation for the selection of rectifiers contains formulas for the determination of the average current passing through the gate and the inverse voltage. If the regulation range is to be extended to 1:50 the rate feedback should be replaced by voltage and current feedback and the intermediate amplifier should be magnetic. Its parameters are selected from the mechanical characteristics. It is shown that the use of the intermediate magnetic amplifier with a few control windings easily solves the problem of

Card 1/2 UDC: 62-83

ACC NR: AR6029293

current limiting. The methods of analysis and design of the recommended current limiting circuits are given. [Translation of abstract] 5 illustrations and bibliography of 10 titles. Ya. R.

SUB CODE: 09

Card 2/2

BOROVIKOV, Mikhail Alekseyevich, starshiy prepodavatel'

Transients of a d.c. motor operating in a MUS-D system. Izv.vys.ucheb. zav.; elektromekh. 7 no.1:53-59 '64. (MIRA 17:9)

1. Kafedra elektrifikatsii promyshlennykh predpriyatiy Tomskogo politekhnicheskogo instituta.

BOROVIKOV, M.K.; GEYZENBLAZ, V.A.

Device for determining the level of metal in the ladle. Lit. proizv. no.3:37 Mr '64. (MIRA 18:9)

L 32947-66 EWT(1) SCTB DD/GW

ACC NR: AN6015750 (N) SOURCE CODE: UR/9023/66/000/043/0003/0003

AUTHOR: Borovikov, P. (Engineer, Associate)

ORG: Institute of Oceanology, Academy of Sciences SSSR (Institut okeanologii Akademii nauk SSSR)

30
6

TITLE: Man lives at the bottom of the ocean

SOURCE: Sovetskiy patriot, 29 May 66, p. 3, col. 1-4

TOPIC TAGS: underwater clothing, underwater communication, underwater sound equipment

ABSTRACT: Problems encountered by aquanauts working in the lower reaches of the ocean are discussed and means of overcoming these problems are suggested. The use of underwater chambers fed by mixtures of oxygen, nitrogen and helium is discussed. A mixture of 4% oxygen, 16% nitrogen, and 80% helium was found to distort voice communication to the point of incomprehensibility. Tests have shown that some 100 gases and vapors (all of which must be removed) accumulate in the chamber. Air purification systems used on submarines are not adequate for the task. Battery powered heating elements for diving suits are suggested as a means of protecting the aquanaut against the cold. It is suggested that dolphins may provide a means of protecting aquanauts against sharks. The use of underwater chambers for aquanauts is recommended for shortening time spent on underwater work. In 2½ months, eight divers working from an underwater

Card 1/2

L 32947-66
ACC NR: AN6015750

chamber at a depth of 55-60 m were able to complete repair work which would have required at least a year using traditional methods.

SUB CODE: 06,13/ SUBM DATE: none

Card 2/2

VERSHINSKIY, N.V.; BOROVIKOV, P.A.

Calculation of stations with automatically variable depth.
Trudy Inst. okean. 74:85-89 '65. (MIRA 18:12)

L 36051-66 EWT(d)/EWP(1) LIP(c) BB/GG

ACC NR: AT6017055 (N) SOURCE CODE: UR/2566/65/074/000/0085/0089

AUTHOR: Vershinskiy, N. V.; Borovikov, P. A.

ORG: none

TITLE: Design of stations with automatically controlled depth

SOURCE: AN SSSR. Institut okeanologii. Trudy, v. 74, 1965. Elektronnyye pribory dlya okeanologicheskikh issledovaniy (Electronic instruments for oceanological research), 85-89

TOPIC TAGS: measuring apparatus, oceanographic instrument

ABSTRACT: An automatic device for the continuous collection of oceanographic data is described. The device is based on a work by R. A. Zlotky ("A Concept for a Remotely Interrogated Synoptic Oceanographic Data Sampling Buoy," *Marine Sci. Instrumentation*, 1961, 1). The station consists of a signal buoy with a radar device and a signal light, a cable with an anchor at one end and a submerged lift buoy, and an instrument package which moves up and down the cable at programmed intervals. Data are stored in the memory of the measuring device and transmitted to a receiver when the device is near the ocean surface. The electric power required to move the package up and down the cable is calculated and a solution for a particular case is given. The design of a new electromechanical device with a considerably reduced power consumption is reported. Orig. art. has: 4 figures, 13 formulas.

SUB CODE: 08,14/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 003

Card 1/1 vmb

BOROVIKOV, P.P.

15-57-7-9856

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, pp 161-162 (USSR)

AUTHOR: Borovikov, P. P.

TITLE: Prospecting Methods in the Northwestern Mica-Bearing Areas of the USSR (O napravlenii i metodike poiskovykh rabot v severo-zapadnykh slyudonosnykh rayonakh SSSR)

PERIODICAL: Inform. sb. Vses. n.-i. geol. in-t, 1956, Nr 4, pp 124-128

ABSTRACT: Present methods of prospecting for mica-bearing pegmatites in the northwestern areas of the country are based on general geological premises and obvious indications of the presence of the minerals. These methods do not guarantee effective exploratory work. The necessity of preliminary study of fissure tectonics and structure of the pegmatites and the host rock is indicated. Study of the relation between the ore

Card 1/3

Prospecting Methods (Cont.)

mineralization and muscovite makes it possible to determine more precisely the tectonic phenomena which are detrimental to the mica. Three types of formation of industrial mica are distinguished: 1) Uniform micatization. The muscovite is genetically associated with quartz of an essentially plagioclase pegmatite; the muscovite content of 10 to 50 kg/cu m usually decreases with depth until the veins taper out completely. 2) Zonal micatization. The muscovite is associated with pegmatites of plagio-microcline composition; the content of muscovite varies from 10 to 200 kg/cu m and over. The zones of micatization are spread throughout the entire extent of the vein; since the muscovite is not associated with a specific structure or composition of the pegmatite, actual excavations are necessary for evaluating the industrial potential of deposits of this type. 3) Pocket micatization. The muscovite is associated with pegmatites of essentially microcline composition, having a coarse pegmatoid structure. The content of muscovite varies from a few kilograms to 300 to 500 kg/cu m and over. The content of mica is extremely

Prospecting Methods (Cont.)

irregular. This type of micatization is quantitatively the most unfavorable for industrial purposes.

Card 3/3

V. A. Vol'fson

BOROVIKOV, P.P.

Muscovite formation in pegmatites of the Kola series. Inform. Sbor. VSEGEI no. 20:11-28 '59. (MIRA 14:1)
(Kola Peninsula—Pegmatites)

BOROVIKOV, Petr Pavlovich, kand.geologo-mineral.nauk; KUZNETSOV, S.S., doktor geologo-mineral.nauk, nauchnyy red.; BANNOV, A.V., red. izd-va; GURDZHIYEVA, A.M., tekhn.red.

[Formation of mountains and mineral resources] Obrazovanie gor i poleznykh iskopaemykh. Leningrad, O-vo po rasprostraneniiu polit. i nauchn.znanii RSFSR, Leningr.otd-nie, 1960. 51 p. (MIRA 13:6)

(Geology, Economic)

BOROVIKOV, P.P.

Magmatic and structural control of pegmatitic deposits. Trudy VSEGEI 57:5-44 '61. (MIRA 15:4)
(Pegmatites)

BOROVIKOV, P.P.; L'VOVA, I.A.

Types of vermiculite deposits, their commercial significance and further prospecting trends. Zakonom. razm. polezn. iskop. 6:470-488 '62. (MIRA 16:6)

1. Vsesoyuznyy geologicheskiy institut.
(Vermiculite)

BOROVIKOV, P.P.

New commercial type of vermiculite deposits. Trudy VSEGEI 83:71-81 '62. (MIRA 16:9)

UNKSOV, V.A.; BOROVIKOV, P.P.; RUNDKVIST, D.V.; PAVLOVA, I.G.; ALYAVDIN, V.F.; VOLOSTNYKH, G.T.; ROZINOV, M.I.; SHCHEGLOV, A.D.; IVANOVA, A.A.; KORMILITSYN, V.S.; SHCHEGLOV, A.D.; ARTEMOV, V.R.; RYTSK, Yu.Ye.; GINZBURG, A.I.; DORTMAN, N.B.; TOPORETS, S.A.; TRUNINA, V.Ya.; YAKOVLEV, I.K.; BOGDANOVA, L.A.; SARBEYEVA, L.M.

Problems of the geology and characteristics of the distribution of mineral deposits. [Trudy] VSEGEI 92:53-89 '63. (MIRA 17:4)

BOROVIKOV, P.P.

Metasomatic nature of micas. Trudy VSEGEI 108:5-22 '64. (MIRA 18:2)

BABOSHIN, V.A.; BOROVIKOV, P.P.; ZAKHARCHENKO, A.I.; IVANOV, A.A.; NIKANOROV, A.S.; NIKITIN, V.D.; RYTSK, Yu.Ye.; SMIRNOVA, V.S.; SOKOLOV, Ya.N.; SOLOV'YEV, A.T.; TSEKHOMSKIY, A.M.

In memory of Daniil Timofeevich Misharev. Trudy VSEGEI 108:189-191 '64. (MIRA 18:2)

BOROVIKOV, S.I. [Borovykov, S.I.]; GERASHCHENKO, O.A. [Herashchenko, O.A.]; FEDOROV, V.G. [Fedorov, V.H.]

Radiation furnace. Zbir. prats' Inst. tepl. AN URSR no.24:128-132 '62. (MIRA 16:3)

(Electric furnaces)

BOROVIKOV, V.A., inzhener; SOBOLEV, M.I., inzhener.

Use of reactors in chambers of insufficient size. Energetik 4 no.6:24-25 Je '56. (MLRA 9:8)
(Electric reactors)

BOROVIKOV, V. A.; SOBOLEV, M. I.

Electric Machinery - Maintenance and Repair

Installing and repairing synchronous compensators without a gentry crane.
Rab. energ. 2, No. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED.

BOROVIKOV, V.A., gornyy inzh.; KARPUNOV, Ye.G., gornyy inzh.; TRET'YAKOV, Yu.K., gornyy inzh.

Improvement of boring and blasting operations in breaking down shale in longwall chambers. Vzryv. delo no.54/11: 374-379 '64. (MIRA 17:9)

1. Leningradskiy gornyy institut (for Borovikov, Karpunov).
2. Shakhta No.3 kombinata Leningradslanets (for Tret'yakov).

L 13826-63 EWT(1)/BDS AFFTC/ASD/SSD Pi-4

ACCESSION NR: AP3003545 S/0020/63/151/002/0251/0254

AUTHOR: Borovikov, V. A.

TITLE: Green's function for problems of diffraction on a polyhedral angle

SOURCE: AN SSSR. Doklady*, v. 151, no. 2, 1963, 251-254

TOPIC TAGS: Green's function, diffraction, polyhedral angle

ABSTRACT: The asymptote of the Green's function for a stationary diffraction problem on the polyhedron S is completely determined by the singularities (occurring in a neighborhood of wave fronts) of the Green's function for the non-stationary diffraction problem. The construction of the Green's function for the non-stationary diffraction problem reduces to the construction of this function for a dihedral angle and for a polyhedral angle. The paper was presented by Academician I. G. Petrovskiy on 30 January 1963. Orig. art. has: 7 formulas.

ASSOCIATION: none

SUBMITTED: 21Jan63 DATE ACQ: 30Jul63 ENCL: 00

SUB CODE: MM NO REF SOV: 004 OTHER: 001

Card 1/1

BOROVIKOV, V.

PA 243T82

USSR/Mathematics - Modern Algebra Nov/Dec 52

"Intersection of a Sequence of Simplexes," V. Borovikov

"Usp Matemat Nauk" Vol 7, No 6 (52), pp 179, 180

Article is devoted to a demonstration of the following theorem, in reply to a question posed by A. N. Kolmogorov: The intersection of a decreasing sequence of simplexes is a simplex. Thanks V. G. Boltyanskiy, who considerably simplified the author's original demonstration and edited article. Submitted 9 Sep 52

243T82

BOROVIKOV, V. A.

USSR/Mathematics - Set theory FD-454

Card 1/1 : Pub. 64 - 6/11

Author : Borovikov, V. A. (Moscow)

Title : Constructing a zero-dimensional compactum of metric order n

Periodical : Mat. sbor., 34 (76), 279-288, Mar/Apr 1954

Abstract : States that the concept "metric order of compacta" was introduced in 1928 by P. S. Aleksandrov, when he posed the problem of the metric regularity of compacta lying in a Euclidean space. This problem was solved in 1949 by K. Sitnikov. A natural question now arises: do all curved polyhedra, in particular all simple arcs, possess the property of metric regularity? In this work the answer is shown to be in the negative. Thanks Acad P. S. Aleksandrov for guidance.

Institution :

Submitted : March 24, 1953

BOROVIKOV, V. A.

Category : USSR/Theoretical Physics - Quantum Electrodynamics B-5

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 2950

Author : Borovikov, V.A.
Title : One Topological Problem Connected with Problems in Quantum Electrodynamics

Orig Pub : Uspekhi matem. nauk, 1956, 11, No 3, 113-118

Abstract : The author investigates, from the topological point of view, the structure of the Feynman diagrams and solves the topological problem of the unique determinateness of the equivalent irreducible diagram. The conditions under which an equivalent irreducible diagram exists for a given diagram are formulated, and a suitable theorem is proven.

Card : 1/1

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 525
AUTHOR BOROVIKOV V.A.
TITLE A generalization of the formula of Herglotz-Petrovskij and the diffusion of waves.
PERIODICAL Doklady Akad. Nauk 106, 587-590 (1956)
reviewed 10/1956

The author gives a solution formula for the Cauchy problem

$$(1) \qquad u\big|_{t=0} = \partial u/\partial t\big|_{t=0} = \ldots = \partial^{n-2}\big|_{t=0} = 0, \quad \partial^{n-1}u/\partial t^{n-1}\big|_{t=0} = f(x_i)$$

relative to the hyperbolic equation

$$(2) \qquad \Delta\left(\frac{\partial}{\partial t}, \frac{\partial}{\partial x_i}\right)u = 0, \qquad (i=1,\ldots,p),$$

where $\Delta(\tau, \xi_i)$ is a homogeneous polynomial of n-th degree such that the equation $\Delta(\tau, \xi_i) = 0$ for all $\sum \xi_i^2 > 0$ has n different (real) roots τ; the last condition is not essential but serves for simplicity. The author's formula is of the type

$$(3) \qquad u(t,x_i) = \int K(t,x_i-\xi_i)f(\xi_i)\,d\xi_i ,$$

where the kernel $K(t,x_i)$ is an ordinary function for $n \geqslant p$, a generalized function for $n < p$. The determination of K in an explicite form in the case $n \geqslant p$ coincides with those given by Herglotz-Petrovskij. The formula obtained by the author is used to show that the surface of the equation $\Delta(1, \xi_i) = 0$ is bounded, and for p being odd, in order that the equation (2) has the form of the equation of the diffusion of waves it is necessary and sufficient that $n - p - 1 < 0$.

Borovikov, V. A.

RUMANIA/Theoretical Physics / Quantum Electrodynamics B-5

Abs Jour : Ref Zhur - Fizika, No 4, 1958, No 7585

Author : Borovikov, V.A.
Inst : Not Given
Title : One Topological Problem Connected with Problems in Quantum Electrodynamics

Orig Pub : An. Rom.-Sov. Ser. mat.-fiz., 1957, 11, No 2, 31-37

Abstract : See Referat Zhur Fizika, 1957, No 2, 2950

Card : 1/1

BOROVIKOV, V.A., Cand Phys-Math Sci -- (diss) "Fundamental solutions of linear equations in ~~auction~~ partial derivatives with constant coefficients." Mos, 1958. 8 pp (Mos Order of Lenin and Order of Labor Red Banner Univ im ~~V.~~ M.V.Lomonosov. Mech-Math Faculty), 100 copies (KL, 24-58,115)

AUTHOR: Borovikov, V.A. 20-119-3-1/65

TITLE: Fundamental Solution of a Linear Partial Equation With Constant Coefficients (Fundamental'noye resheniye lineynogo uravneniya v chastnykh proizvodnykh s postoyannymi koeffitsiyentami)

PERIODICAL: Doklady Akademii Nauk, 1958, Vol 119, Nr 3, pp 407-410 (USSR)

ABSTRACT: Let $L(\xi_1,\ldots,\xi_m)$ be a homogeneous polynomial of n-th degree. Let for $L = 0$ and $\sum_{i=1}^{m}\xi_i^2 > 0$ be grad $L > 0$. Let the equation

$$L\left(\frac{\partial}{\partial x_1}, \frac{\partial}{\partial x_2}, \ldots, \frac{\partial}{\partial x_m}\right) u(x_1,x_2,\ldots,x_m) = f(x_1,\ldots,x_m)$$

be given, its solution is obtained from

$$u(\xi_1,\ldots,\xi_m) = \int\cdots\int K(x_1,\ldots,x_m) f(\xi_1-x_1,\ldots,\xi_m-x_m)\,dx_1\,dx_2\cdots dx_m,$$

where $K(x_1,\ldots,x_m)$ is a generalized solution of

Card 1/2

Fundamental Solution of a Linear Partial Equation With Constant Coefficients

20-119-3-1/65

$$L\left(\frac{\partial}{\partial x_1}, \frac{\partial}{\partial x_2}, \ldots, \frac{\partial}{\partial x_m}\right) K(x_1,\ldots,x_m) = \delta(x_1,\ldots,x_m)$$

The author investigates the behavior of the fundamental solution $K(x_1,\ldots,x_m)$ in the neighborhood of the characteristic cone (i.e. of that cone on which $K(x_1,\ldots,x_m)$ possesses singularities). A series expansion of $K(x_1,\ldots,x_m)$ in terms of powers of the distance from the characteristic cone is given, whereby the point, in the neighborhood of which this series expansion holds, is assumed to be not singular. For the case of a hyperbolic operator L the author obtains an integral representation of $K(x_1,\ldots,x_m)$ by Cauchy-regularization.

There are 2 Soviet references.

PRESENTED: November 2,1957, by I.G. Petrovskiy, Academician

SUBMITTED: October 30, 1957

Card 2/2

BOROVIKOV, V.A.

Basic solutions of linear partial equations with constant coefficients. Trudy Mosk.mat.ob-va 8:199-258 '59.
(MIRA 13:2)

(Differential equations, Partial)

RYABKOV, Aleksandr Yakovlevich [deceased]; BOROVIKOV, V.A.; KOSAREV, V.K.; KHODOT, G.A.; KARPOV, F.F., red.; BORUNOV, N.I., tekhn.red.

[Electric nets and systems] Elektricheskie seti i sistemy. Izd.4, perer. i dop. V.A.Borovikovym, V.K.Kosarevym, G.A.Khodotom. Moskva, Gos.energ.izd-vo, 1960. 511 p. (MIRA 13:2)
(Electric networks)

31905
S/039/61/055/003/001/004
D299/D304

16.3500

AUTHOR: Borovikov, V.A. (Moscow)

TITLE: On sufficient conditions for absence of gaps

PERIODICAL: Matematicheskiy sbornik, v. 55, no. 3, 1961, 237-254

TEXT: The author proves that A.M. Davydova's condition (Ref. 7: Candidate's thesis, MGU, 1945), as well as those formulated by himself in an earlier work, are sufficient conditions for the absence of gaps, i.e. of domains, in which the fundamental solution of linear hyperbolic equations vanishes identically. In addition, an example is given which illustrates that these conditions are not necessary ones. The fundamental solution of Cauchy's problem

$$\left.\begin{aligned} L\left(\frac{\partial}{\partial t}, \frac{\partial}{\partial x_1}, \ldots, \frac{\partial}{\partial x_l}\right)u = 0, \\ u|_{t=0} = u'_t|_{t=0} = \ldots = u_t^{(m-2)}|_{t=0} = 0, \\ u_t^{(m-1)}|_{t=0} = f(x_1, \ldots, x_l) \end{aligned}\right\} \qquad (1)$$

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S/039/61/055/003/001/004
D299/D304

On sufficient conditions for ...

is defined as the generalized function $K(\tau, \xi)$, for which

$$u(t_1, x_1, \ldots, x_l) = \int K(t_1, x_1 - \xi_1, \ldots, x_l - \xi_l)\, f(\xi_1, \ldots, \xi_l)\, d\xi_1 \ldots d\xi_l.$$

Further, the concepts of characteristic cone and characteristic surface are defined. A.M. Davydova's condition is formulated as a theorem. In modified form, this condition is as follows: Let k be the number of positive elements of a diagonal matrix (similar to the matrix related to the equation of the characteristic surface). Then, if k is odd, the considered domain cannot be a gap (lacuna). The validity of this statement follows from formulas (obtained by the author in an earlier work), involving the expansion of the fundamental solution along the normal at the regular point of the characteristic cone. The condition is stated, under which no wave diffusion occurs for Eq. (1). The absence of wave diffusion (as defined by the author) is equivalent to the existence of gaps containing the origin of coordinates. Theorem 2. If the surface $H(\xi_1, \ldots$

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On sufficient conditions for ...

$\xi_1) = 0$ is bounded, then the neighborhood of the origin of coordinates is a gap for $m < l + 1$ and odd l, and no gap otherwise. This theorem is proved. The absence of gaps between a series of concentric ovals is also discussed. Let $L(\partial/\partial t, \partial/\partial x_1, \partial/\partial x_1)$ be an operator of the fourth order and the suface $H(\xi_1, \ldots, \xi_1)$ consist of two convex ovals; $l = 5$. Then Herglotz-Petrovskiy's formula becomes

$$K(t, x_1, \ldots, x_5) = C \int_{H=0} \frac{\delta'(\sum x_i \xi_i + t)\, d\sigma}{|\operatorname{grad} H| \cdot \operatorname{sign}\left(\sum \xi_i \frac{\partial H}{\partial \xi_i}\right)}. \qquad (10)$$

Fig. 2 shows the surface $H(\xi_i) = 0$, and Fig. 3 - the characteristic surface for this equation. It is proved that A_1 cannot be a gap. Further, the general case is considered: the surface $H = 0$ consists of $m/2$ ovals and (if m is odd) of an additional component. Denoting by A_k the set of points $(x_1, \ldots, x_1)$, for which the plane

Card 3/5

31595
S/039/61/055/003/001/004
D299/D304

On sufficient conditions for ...

$\sum x_i \xi_i + t = 0$ does not intersect the first k ovals, and by $\Im_k$ - the complementary surface (related to the surface, dual to G_k) which contains the point at infinity, one obtains Theorem 3: For even 1, the intersection of A_k and B_k is never a gap. For odd 1, the intersection of A_k and B_k is no gap if the polynomial $H(\xi_i)$ cannot be expressed as the product of two polynomials $H = H_1 \cdot H_2$ for one of which the surface $H_j(\xi_i) = 0$ (j equals either 1 or 2) coincides with G_k. (G_k denotes the set of complementary ovals) This theorem is proved in several steps. A further theorem is stated. An example is constructed which shows that even with none of the foregoing conditions (Theorems 1 - 4) satisfied, there are no lacunas. There are 6 figures and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: December 7, 1961

Card 4/5

S/039/61/055/003/001/004
D299/D304

On sufficient conditions for ...

Fig. 2.

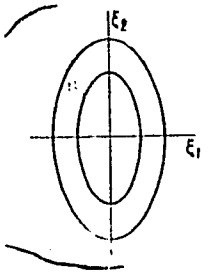

Рис. 2

Fig. 3.

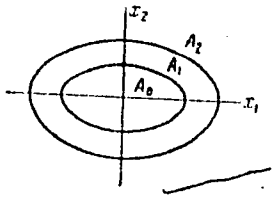

Рис. 3

Card 5/5

S/020/62/144/003/010/030
B108/B102

24.3200

AUTHOR: Borovikov, V. A.

TITLE: Reduction of some three-dimensional diffraction problems to a Dirichlet problem for the Laplacian equation

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 3, 1962, 527-530

TEXT: The diffraction of a plane wave $f(t - x)$ on a conical obstacle S is considered. It is shown that when the form of the incident wave is properly chosen, the problem

$\frac{\partial^2 u}{\partial t^2} - \frac{\partial^2 u}{\partial x^2} - \frac{\partial^2 u}{\partial y^2} - \frac{\partial^2 u}{\partial z^2} = 0$ with $u|_S = 0$ at $t < 0$, and

$u(t, x, y, z) = f(t - x)$ leads to a Dirichlet problem for the Laplace equation. Theorem: If the function

$t^{-1/2} v(\frac{r}{t}, \omega)$ is a solution of the above equation, the function v can be

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S/020/62/144/003/010/030
B108/B102

Reduction of some three- ...

written in the form $v(r/t,\omega) = (1 + \sqrt{1 - (r/t)^2})^{-1/2} \cdot w\left(\frac{r/t}{1 + \sqrt{1 - (r/t)^2}}, \omega\right)$,

where w is a harmonic function satisfying the Laplacian equation and ω is the direction of the vector $\vec{r} = x + y + z$. The solution of the above equation with initial and boundary conditions is discussed.

PRESENTED: January 3, 1962, by V. A. Fok, Academician

SUBMITTED: November 20, 1961

Card 2/2

BOROVIKOV, V.A.

Two-dimensional diffraction problem on a polygon. Dokl.AN SSSR 144 no.4:743-746 Je '62. (MIRA 15:5)

1. Predstavleno akademikom V.A.Fokom.
(Boundary value problems) (Diffraction)

KHANUKAYEV, A.N., kand.tekhn.nauk; BOROVIKOV, V.A., gornyy inzhener

Interconnection between the parameters of a shock wave in a charge holder and a pressure wave in a rock. Vzryv. delo no.50/7:20-30 '62. (MIRA 15:9)

1. Leningradskiy gornyy institut imeni G.V. Plekhanova.
(Blasting)

BOROVIKOV, Vasiliy Aleksandrovich; KOSAREV, Vladimir Kuz'mich; KHODOT, Georgiy Aleksandrovich; SLAVIN, M.I., kand. tekhn.nauk, retsenzent; DOROKHOVA, A.I., inzh., retsenzent; GESSEN, V.Yu., doktor tekhn. nauk, red.; SOKOLEVA, Ye.M., tekhn. red.

[Electrical networks and systems] Elektricheskie seti i sistemy. Moskva, Gosenergoizdat, 1963. 459 p. (MIRA 16:8)
(Electric lines--Overhead)

24137(0)

S/020/63/148/003/011/037
B104/B186

AUTHOR: Borovikov, V. A.

TITLE: The three-dimensional problem of diffraction from a prism

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 3, 1963, 545 - 548

TEXT: The results of a previous work (V. A. Borovikov, DAN, 144, no. 4, 743 (1962)) are generalized for the three-dimensional problem of diffraction from an infinite prism S based principally on a convex polygon. The Green function $\Gamma(a, x, t)$ is constructed for the wave equation (a and x are points in the three-dimensional space) and for the zero boundary conditions at S. The types of the singularities of $\Gamma(a, x, t)$ are shown as functions of t at fixed a and x. The Fourier transform of $\Gamma(a, x, t)$ is the Green function for the Helmholtz equation and for the boundary value problem $u|_S = 0$; its asymptotic behavior with $k \longrightarrow \infty$ is determined by the singularities of the function $\Gamma(a, x, t)$. There are 2 figures.

PRESENTED: August 4, 1962, by V. I. Smirnov, Academician

SUBMITTED: June 20, 1962

Card 1/1

BOROVIKOV, V.A.

Green's function for the problem of diffraction on a polyhydral angle. Dokl. AN SSSR 151 no.2:251-254 Jl '63. (MIRA 16:7)

1. Predstavleno akademikom I.G.Petrovskim.
(Potential, Theory of) (Boundary value problems)

SOLOV'YEV, Yu.F., inzh.; BOROVIKOV, V.A., inzh.

Non-dispersal method of breaking boulders by blasting. Transp. stroi. 14 no.9:22-23 S '64 (MIRA 18:1)

BOROVIKOV, V.A.

Diffraction of a plane wave on a segment. Dokl. AN SSSR 159 no.4:711-714 D '64 (MIRA 18:1)

1. Predstavleno akademikom I.G. Petrovskim.

L 23529-65 EWT(1)/T/EEC(b)-2/T IJP(c)

ACCESSION NR: AP5000905 S/0020/64/159/004/0711/0714

AUTHOR: Borovikov, V. A.

TITLE: Diffraction of a plane wave on a segment

SOURCE: AN SSSR. Doklady, v. 159, no. 4, 1964, 711-714

TOPIC TAGS: plane wave diffraction, diffraction, Fourier transform, Fresnel integral, Sommerfeld radiation condition

ABSTRACT: The stationary problem of a diffraction of a plane wave $u_{incid} = e^{ik(x\sin\beta + y\cos\beta)}$ on a segment 2δ is considered with the boundary condition $\partial u/\partial n|_{2\delta} = 0$. The solution is presented as $u(k,x,y) = u_n(k,x,y) + u_{diffr}(k,x,y)$, where U_n is the sum of the incident and reflected waves, and u_{diffr} satisfies the Sommerfeld radiation condition. The assymptotic solution $U(\beta,\theta,k)$ is sought for the distant zone of u_{diffr}. For each pair of the limiting angles of β,θ, formulas are given for U expressed through Fresnel's integral and a function of $(k\delta)^{-1}$ with limited

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L 23529-65
ACCESSION NR: AP5000905

coefficients. An expansion of U in series of powers of $(k\delta)^{-1}$ is given. Fourier transforms are used to obtain the Fresnel's integral. Orig. art. has: 2 figures, 16 equations

ASSOCIATION: None

SUBMITTED: 06Jun64 ENCL: 00 SUB CODE: MA, GP

NR REF SOV: 000 OTHER: 000

Card 2/2

MISHIN, M.M., kand. tekhn. nauk; [illegible], L.A., [illegible]; [illegible], S.A., inzh.

Action of the stress waves in coal and shale. Izv. vys. ucheb. zav.; gor. zhur. 8 no.1:57-62 '65. (MIRA 18:3)

1. Leningradskiy ordena Lenina i ordena Trudovogo Krasnogo Znameni gornyy institut imeni G.V. Plekhanova. Rekomendovana kafedroy buro-vzryvnykh rabot.

GOLOVIN, G.M., kand. tekhn. nauk; BOROVIKOV, V.A., inzh.; KARPUNOV, Ye.G., inzh.; GRINBERG, I.N., inzh.

Investigating the efficient delay interspaces in short-delay blasting. Vzryv. delo no.57/14:185-190 '65. (MIRA 18:11)

1. Leningradskiy gornyy institut.

L 14967-66 EWT(d) IJP(c)
ACC NR: AT6002843 SOURCE CODE: UR/2754/65/000/004/0005/0070

AUTHOR: Borovikov, V. A.

ORG: none

TITLE: Two-dimensional problem of diffraction by a polygon

SOURCE: Leningrad. Universitet. Problemy difraktsii i rasprostraneniya voln, no. 4, 1965. Difraktsiya i izlucheniye voln (Wave diffraction and radiation), no. 4, 5-70

TOPIC TAGS: electromagnetic wave diffraction, Green function, cylindric wave

ABSTRACT: One of the fundamental problems in diffraction may be formulated as follows: to find the asymptotics for the solution of the equation $\Delta u + k^2 u = f$ when $k \to \infty$ (where f is independent of k) in the region outside of a barrier S for which u satisfies certain boundary conditions, for example

$$u|_S = 0 \quad \text{or} \quad \frac{\partial u}{\partial n}\Big|_S = 0$$

The author gives a solution for this problem for the case of two variables where S has the given boundary condition and is a convex polygon. A formula is derived for

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L 14967-66
ACC NR: AT6002843

the Green function in this problem for the simplest case, where S is an angle. Radial expansions are considered for the special case of a cylindrical wave front. The structure of the wave front of the Green function is analyzed for the problem of diffraction by a convex polygon. The basic problem is then considered: diffraction of an arbitrary cylindrical wave at the vertex of an angle, where the center of the wave is located on the side of the angle. The results may easily be extended to the case of an incident cylindrical wave with an arbitrarily placed center. A specific example is given in which the author considers the asymptotics for the Green function in the case of diffraction by a regular polygon. An algorithm is given for determining the asymptotics of the Green function in the case of an arbitrary convex polygon. The simplest qualitative consequences of the results are discussed and the limits of applicability of the formulas are considered. An appendix is given showing the convergence of radial expansion for cylindrical waves which arise during diffraction by a polygon. Orig. art. has: 24 figures, 79 formulas.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 005/ OTH REF: 001

Card 2/2 vmb

L 29420-66 EWT(l)/EWP(m)/EWT(m)/T WW/JWD

ACC NR: AR5020401 SOURCE CODE: UR/0124/65/000/008/B027/B027

54
B

AUTHOR: Borovikov, V. A.

TITLE: Determination of the parameters of the state of detonation products

SOURCE: Ref. zh. Mekhanika, Abs. 8B177

REF SOURCE: Sb. Soversh. tekhnol. razrabotki rudn. mestorozhd. podzemn. sposobom. M., Nedra, 1965, 36-41

TOPIC TAGS: ammonium compound, ammonium salt, explosive, solid explosive, detonation wave

ABSTRACT: The isentropy k index was determined for powder ammonium nitrate explosives in the law $k = (1-2\operatorname{tg}\varphi)^{-1}$ in accordance with angle φ (the angle between the direction of the flow of the diverging explosion products and the perpendicular to the axis of the charge). The determination of φ was realized by means of detonating arc-shaped charges with an inside radius of the curve. It was established that for ammonite No. 6 ZhV, the isentropy index may be taken as equal to 2. Basic parameters were given for the state of a detonation wave at

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L 29420-66

ACC NR: AR5020401

O

k = 2 and a density equal to 1. It was established that a contraction of the radial clearance results in a sharp increase of pressure on the charge box walls. L. Yefremov

SUB CODE: 19 / SUBM DATE: none

Card 2/2 FV

L 2483-66 EWT(d)/T/EWP(1) IJP(c) UR/0103/65/026/004/0683/0687
ACCESSION NR: AP5011910

31
B

AUTHOR: Borovikov, V. A. (Moscow); Bryzgalov, V. I. (Moscow)

44,55 44,55

TITLE: The simplest symmetric game of several automata

SOURCE: Avtomatika i telemekhanika, v. 26, no. 4, 1965, 683-687

16, 44, 55

TOPIC TAGS: simple symmetric game, two action automaton, game theory, computer simulation

ABSTRACT: The paper studies the collective behavior of automata with linear tactics and expedient behavior in stationary random media during simple symmetric games. The terminology and definitions are those introduced by M. L. Tsetlin (Usp. matem. nauk, v. 18, no. 4 (122), 1964). Each of the automata has two actions and the game is determined by the number of participating automata and the pay function depending only on the number of automata which selected the given action. The expediency of finite automata behavior in such a game is studied analytically and by the use of digital computer simulation. "The authors thank M. L. Tsetlin for numerous useful discussions." Orig. art. has: 9 formulas and 4 figures.

44,55

ASSOCIATION: None

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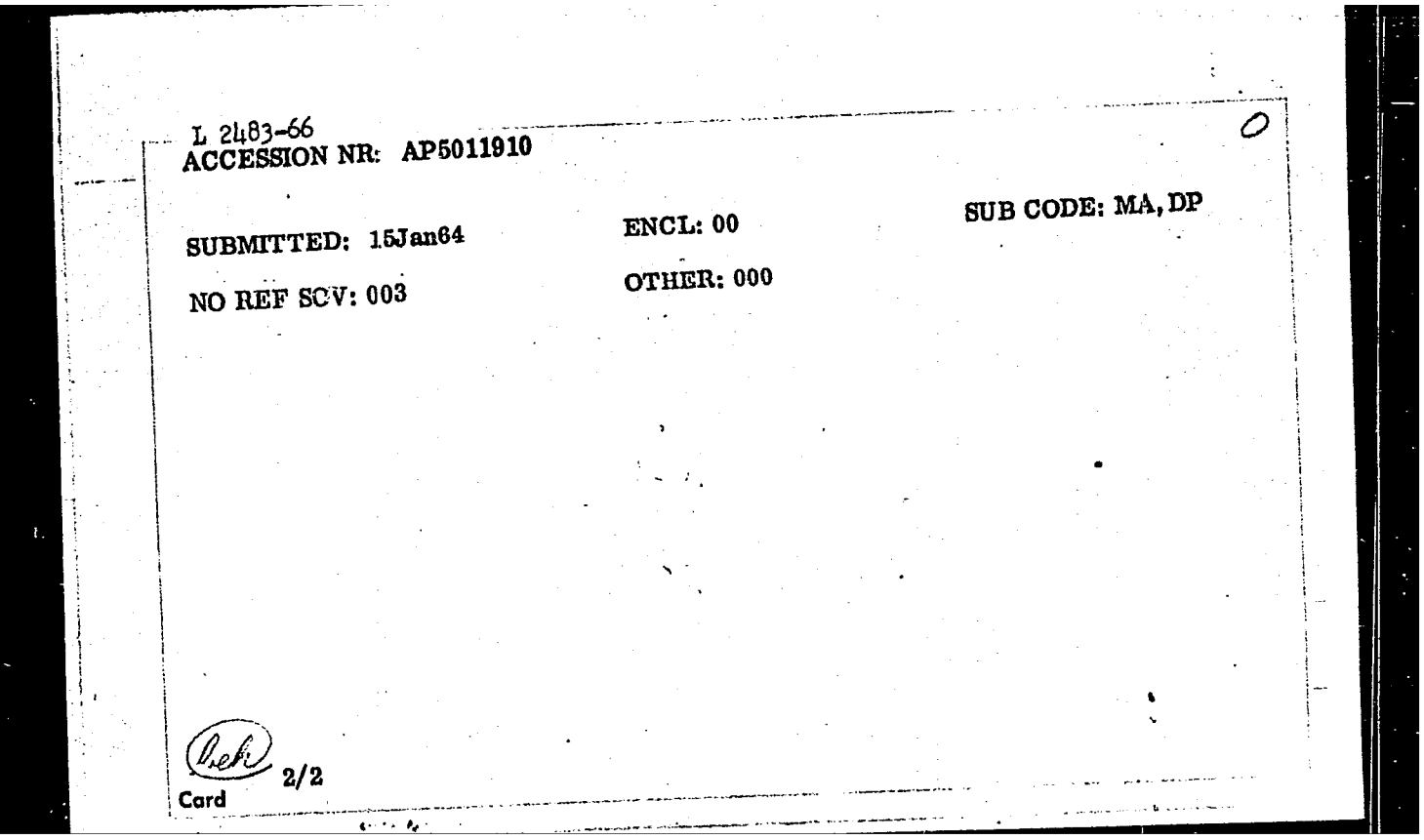

L 2483-66
ACCESSION NR: AP5011910

SUBMITTED: 15Jan64 ENCL: 00 SUB CODE: MA, DP

NO REF SOV: 003 OTHER: 000

2/2
Card

TARANOV, Petr Yakovlevich. KHANUKAYEV, A.N., prof., retsenzent; BUBOK, V.K., retsenzent; BOROVIKOV, V.A., retsenzent; KARPUNOV, Ye.G., retsenzent; MISNIK, Yu.M., retsenzent; SMIRNOV, N.A., retsenzent; RAZAMAT, V.V., retsenzent; SAVRASOV, L.M., retsenzent; YURMANOV, Yu.A., retsenzent; BABICHEV, N.S., retsenzent

[Blasting operations] Burovzryvnye raboty. Izd.2. Moskva, Nedra, 1964. 253 p. (MIRA 18:7)

BOROVIKOV, V.A.; GEL'FAND, I.M.; GRASHIN, A.F.; POMERANCHUK, I.Ya.

Phase shift analysis of pp-scattering at 95 Mev. Zhur. eksp. i teor. fiz. 40 no.4:1106-1111 Ap '61. (MIRA 14:7)
(Protons--Scattering)

BOROVIKOV, V.N., inzh.; MAMLIN, G.A., inzh.; PITANOVA, N.S., inzh.; REUT, Z.V., inzh.

Preparing welded, box elements for span structures. Transp. stroi. 14 no.7:23-26 Jl '64. (MIRA 18:1)

USSR/Soil Science. Mineral Fertilizers. J-3

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24730.

Author : Chernenkov, A.D.; Borovikov, V.T.
Inst :
Title : System of Fertilization in Beet Crop Rotation.

Orig Pub: Latvian PSR zinatnu Akad. Vestis, Izv. AN LatvSSR, 1956, No 8, 59-66.

Abstract: On the Mezhotnen beet-experimental-plant-breeding station of the Latvian SSR, an experiment was carried out in a nine-field crop rotation on sod-carbonate loamy soil, on a drained area of 27 ha., to study a system of fertilization in beet-crop rotation. The beet was cultivated according to the turnover of the grass layers of the third year of use. The planting is comb-shaped. In the spring,

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Abs Jour: Ref Zhur-Biol., No 6, 1958, 24730.

at the cutting of the combs, N 120, P 120, K 120 were applied; in the rows, at the sowing, P 20, and, in the fodder, N 30, P 30, K 30. The manure saturation of rotated crops by 20, 40, 80 and 120 ton/ha. per rotation was studied. The manure was applied on a deep autumn ploughing. Largest yields of sugar beet (548 t/ha) were obtained by applying 40 t./ha. of manure and NPK at 150 kg/ha. on the crop before the sugar beet 20 t./ha. and on the beet. The addition of 15 t./ha. of liquid dung increased the yield of the sugar beet to 555 c/ha. The yield of the crops preceding the sugar beets was also very high: of the winter wheat - to 50.8 c/ha., of hay of perennial grasses 153 c/ha. The after-effect

USSR/Soil Science. Mineral Fertilizers. J-3

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24730.

of the manure in crop rotation exceeded its direct action.

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SERGEYEV, N.V., inzh.; BOROVIKOV, V.V., inzh.

Using "cold" concrete for lining mine shafts worked in difficult hydrogeological conditions. Shakht. stroi. 8 no.6:5-6 Je '64.
(MIRA 17:10)

1. Trest Shakhtspetsstroy.

LAPIN, Petr Ivanovich; BOROVIKOV, Ye.M., red.; LEBEDEVA, I.D., red.izd-va; VDOVINA, V.M., tekhn.red.

[Organizing the preparation for use and operation of instruments at sawmills]Organizatsiia instrumental'nogo khoziaistva na lesopil'nykh zavodakh. Moskva, Goslesbumizdat, 1962. 153 p. (MIRA 16:3)
(Sawmills—Equipment and supplies)

BOROVIKOV, Ye. M.; ZVYAGINA, O. F.; PUZANOVA, A. A.

Nature of the deformation of frame saw blades in the rolled spots. Der. prom. 12 no.2:16-17 F '63. (MIRA 16:4)

1. Arkhangel'skiy lesotekhnicheskiy institut.

(Saws)

BOROVIKOV, Ye.M.

Measuring the wear of frame saw teeth by the use of a large projector. Der. prom. 12 no.8:16-17 Ag '63. (MIRA 16:11)

1. Arkhangel'skiy lesotekhnicheskiy institut im. V.V. Kuybysheva.

BOROVIKOV, Ye.M.

Methods of shaping flattened teeth of frame saws. Der. prom. 14 no.5:12-13 My '65. (MIRA 18:6)

1. Arkhangel'skiy lesotekhnicheskiy institut.

FIALKOV, Yu.Ya.; BOROVIKOV, Yu.Ya.

Relation between the constants of dissociation of acids in acetic acid and the properties of binary systems of the type acetic acid - acids. Ukr.khim.zhur. 30 no.2:119-125 '64. (MIRA 17:4)

1. Kiyevskiy politekhnicheskiy institut.

BOROVIKOV, Yu.Ya.; FIALKOV, Yu.Ya.

Dielectric constant of some binary liquid systems with high electric conductivity. Elektrokhimiia 1 no.9:1106-1109 S '65.
(MIRA 18:10)

1. Kiyevskiy politekhnicheskiy institut.

L 33200-66 EWT(l)/EWT(m) IJP(c) GG
ACC NR: AR6016219 SOURCE CODE: UR/0058/65/000/011/E008/E008

AUTHOR: Fialkov, Yu. Ya.; Borovikov, Yu. Ya.

TITLE: Dielectric constant of certain binary systems with non-interacting components

SOURCE: Ref. zh. Fizika, Abs. 11E58

REF SOURCE: Vestn. Kiyevsk. politekhn. in-ta. Ser. khim. mashinostr. i tekhnol., no. 1, 1965, 73-79

TOPIC TAGS: dielectric constant, refractive index, liquid property, optic property

ABSTRACT: The authors investigated the dielectric constant ϵ, and also the density and refractive index of 12 binary liquid systems made up of non-interacting components. It is found that in systems made up of non-associated components good agreement between the experimental values of ϵ and those calculated by the rule of volume-fraction additivity is observed. In systems made up of weakly associated components and non-associated components, the calculation of ϵ on the basis of the calculation of the fluctuations of ϵ gives good agreement with experiment. [Translation of abstract]

SUB CODE: 20

Card 1/1 pla

BOROVICKOVA, A.

Effect of specific waste substances on the activation process.
Vodni hosp 13 no.5:196 '63.

BOROVICKOVA, A.

Methods of orientation tests of waste water purification by activation. Vodni hosp 14 no.4:126 '64.

L 12357-63 S/081/63/000/005/017/075

AUTHOR: Borovikova, A. L. 44

TITLE: Colorimetric determination of tantalum with crystalline violet and niobium with rhodanide from one sample

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963,116, abstract 5G59 (Tr. Kazakhsk. n-i in-ta mineral'n, sir'ya, 1961, no. 6, 196 - 205)

TEXT: The usual methods of determining Nb (rhodanide) and Ta (extractions of the fluorotantalate anion with crystalline violet (I) (Ref. zhur. Khim. No. 6, 1959, were used for determination of one sample of Nb and Ta in an ore, especially loparite. containing 0.0001 - 0.5 % Nb and Ta, 0.01 % Mo and W, 5 % Zr and $\leqslant$ 2 % Ti. The determination of Nb and Ta is hindered by Mo and W. It was shown that in the determination of Ta the coloring of the exact is stable for 30 - 40 minutes; the concentration of F^- must be $<0.5\%$. The content of I in aqueous solutions in the amount of 0.01 - 0.1 % does not affect the optical density of the extract. The optimum pH of the solution is from 1.1 to 1.5. For conducting an analysis, 0.5 g of an ore is treated with 10 - 15 ml of concentrated HF, to which are added about 8 - 10 ml of H_2SO_4 (1:1). Solution is evaporated to white fumes, diluted with water, and boiled down to a

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volume of 1 - 2 ml. The resulting solution is transfered into a beaker by means of 0.5 % solution of tannic acid. A small amount of macerated paper is then added, the solution is boiled 10 - 15 minutes and let stand overnight. The residue is filtered off and rinsed 2 - 3 times with 0.25 % solution of tannic acid in 1 % H_2SO_4, ignited and fused with 2 g of $K_2S_2O_7$. The melt is then leached by heating with 25 ml of 8 % solution of tartaric acid in a 0.2 % H_2SO_4 solution and brought up to a volume of 50 ml. For ores which contain Mo and a considerable amount of W, there is a supplemental precipitation of Nb and Ta conducted using a 20 % solution of NaOH. For determination of Ta, an aliquot of the solution is brought up to 10 ml volume with solution containing 4 % tartaric acid, 4 % $K_2S_2O_7$ and 0.1 % H_2SO_4, to which 1 ml of 0.25 % solution of I is added, 6 ml C_6H_6, 0.5 ml 20 % solution of $KF \cdot 2H_2O$, and agitated 1 minute. After less than 30 minutes the organic phase is measured photometrically with a photoelectric calorimiter FEK-M containing a light filter with maximum permissivity at 580 mμ in 1 cm cell, using C_6H_6 as a comparison solution. In the determination of Nb, the aliquot portion of the mixture is diluted to 4 ml with water and then added (agitating after each addition) to 3 ml of 20 % solution of KSCN, 3 ml, 15 % solution of $SnCl_4$, in 30 % HCl, 6 ml HCl (1:1)

L 12357-63
Colorometric determination of S/081/63/000/005/017/075

and 5 ml $(C_2H_5)_2O$. The color of the ether layer is compared with standard calibration solutions. This method allows a determination of $\geqslant$ 0.0005 % Nb and $\geqslant$ 0.001 % Ta in ores. O. Petrukhin.

[Abstractor's note: Complete translation]

Card 3/3

BRAKHFOGEL', P.F. (Alma-Ata); BOROVIKOVA, A.Z., mladshiy nauchnyy sotrudnik (Alma-Ata)

Helicopters in the service of mountain orchards. Zashch. rast. ot vred. i bol. 6 no.10:11-12 O '61. (MIRA 16:6)

1. Starshiy agronom Alma-Atinskoy oblastnoy stantsii zashchity rasteniy (for Brakhfogel'). 2. Kazakhskiy institut zashchity rasteniy (for Borovikova).
(Alma-Ata Province--Aeronautics in agriculture)
(Alma-Ata Province--Apple--Diseases and pests)

BOROVICKOVÁ, B.

CZECH

621.395.6 : 621.391

3418. Method of testing Czech logatoms for determining the syllable intelligibility. B. BOROVIČKOVÁ. *Slaboproudý Obzor*, 16, No. 7, 144–8 (1955) In Czech.

Evaluation of the articulation loss (AVN) of a telephone system is based on the measurement of syllabic intelligibility, a text of specially selected logatoms being employed for the purpose. The tests described involved 2000 meaningless logatoms, which were divided into 40 texts of 50 words each. The results show that intelligibility of female speech sounds is 2·2% and 5% less, for vowels and consonants respectively, than that of the male. It was found that vowels are considerably more intelligible than consonants, the least intelligible sounds (for the Czech language) being f, ... [illegible] CZ

43171
Z/039/62/023/011/002/003
E192/E382

6.5000

AUTHORS: ~~Borovičková~~, Blanka, Doctor and Maláč, Vlastislav, Engineer

TITLE: Determination of the articulation index of the Czech language

PERIODICAL: Slaboproudý obzor, v. 23, no. 11, 1962, 625 - 630

TEXT: The articulation index, i.e. the additive articulation as a function of frequency, can be determined experimentally by carrying out a series of measurements by means of successively narrowing, low-pass and high-pass filters which restrict the speech spectrum from above or below. A set of syllables is read during each measurement and these are recorded by a group of listeners. The impressions gained by the listeners are checked and the number of correctly recorded syllables is used to determine the percentage articulation. These values are plotted in graphs as a function of the cut-off frequencies of the filters and represent the dependence of the percentage articulation on the cut-off frequency. After some preliminary measurements, this method was employed to determine the articulation index for the

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Czech language. The measurements were conducted in the music theatre in Prague which had congenial acoustic and climatic conditions. Each set of measurements comprised 12 - 18 individual measurements. Up to 100 syllables were used in each individual measurement under the same physical conditions (frequency band-width). The main conclusion resulting from the measurements was that the intersection of the articulation-index curves for low-pass and high-pass filters in Czech occurred at a frequency of 1.3 kc/s (see curve c' in Fig. 8), whereas these points for Japanese (curve j - Fig. 8), English (curve a - Fig. 8) and Russian (curve r - Fig. 8) occurred at about 1.9 kc/s. This deviation in Czech was though to be primarily due to the different spectral composition of the language and to the fact that all the measurements were carried out using the same speaker. There are 8 figures and 2 tables.

ASSOCIATIONS: Fonetický kabinet Československé akademie věd, Praha (Phonetics Studio of the Czechoslovak Academy of Sciences)
Výzkumný a vývojový ústav elektroakustiky, Praha (Research and Development Institute of Electro-acoustics, Prague)

Z/039/62/023/007/002/005
D409/D301

6.2000

AUTHORS: Borovičková, Blanka, Doctor, and Maláč, Vlastislav, Engineer

TITLE: On problems of subjective evaluation of transmission channels

PERIODICAL: Slaboproudý obzor, v. 23, no. 7, 1962, 374 - 377

TEXT: The article describes problems of audio intelligibility and articulation tests for subjective evaluation of speech-transmission channels, and lists parameters which should be kept constant during hearing tests. Described in detail are the choice of test texts, i.e. syllables which characterize the features of the living language, and the selection and training of test speakers. The paper is intended as a preparation for extensive subjective measurings with the aim of determining the intelligibility index of the Czech language and stating the relevance of individual voice-frequency bands for the overall transmission quality of the communication channel. There are 3 figures. The

VB

most important English-language reference is: N.R. French - J.C. Steinberg: Factors Governing the Intelligibility of Speech Sounds. JASA 19 (1947), pp 90 - 119.

ASSOCIATION: Fonetický kabinet ČSAV, Praha (Phonetics Cabinet, Czechoslovak Academy of Sciences, Prague) (B. Borovičková); Výzkumný a vývojový ústav elektroakustiky, Praha (Research and Development Institute of Electroacoustics, Prague) (V. Malář)

SUBMITTED: March 24, 1962

VB

ACCESSION NR: AP4029392 Z/0039/64/025/004/0202/0206

AUTHOR: Borovickova, Blanka (Borovichkova, B.)

TITLE: Physical and visual identification of Czech vowels

SOURCE: Slaboproudy obzor, v. 25, no. 4, 1964, 202-206

TOPIC TAGS: speech analysis, spectrogram, vowel, speech, visible speech, visible speech spectrogram, acoustic signal, gating circuit, frequency pass filter

ABSTRACT: The article presents what is described as a "new" integrated method of speech analysis. This method consists in evaluating the physical speech parameters in combination with the perceptual parameters, i.e., those obtained from the results of listening tests (see Cooper, F. S. and others. "Some experiments on the perception of speech sounds," JASA, 29 (1952), 597-600). The physical parameters are determined with the aid of three-dimensional spectrograms of the visible-speech type. The perceptual parameters are the results of test-listening to acoustical speech signals deformed along the time or frequency axes, i.e., by a gating circuit or a frequency pass-filter. The application of the method is shown in examples, the values being obtained in evaluating Czech positional and stylistic vowel variants. One result of the method is the determina-

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ACCESSION NR: AP4029392

tion of the relevant vowel regions from the perceptual viewpoint. "This study was done in technical cooperation with the Electroacoustic Institute in Prague."

ASSOCIATION: Foneticka laborator Ustavu pro jazyk cesky CSAV , Praha (Phonetics Laboratory, Institute of the Czech Language, Czechoslovak Academy of Sciences)

SUBMITTED: 12Nov63 DATE ACQ: 01May64 ENCL: 00

SUB CODE: GP NO SOV REF: 004 OTHER: 000

CARD 2/2

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L 29673-65

ACCESSION NR: AP4047829 Z/0002/64/000/004/0691/0693

AUTHOR: Borovickova, B.; Malac, V.

TITLE: Conference of the committee on the analysis and synthesis of speech at Warsaw

SOURCE: Ceskoslovenska akademie ved. Vestnik, no. 4, 1964, 691-693

TOPIC TAGS: language, speech analysis, speech synthesis, vocabulary coder, scientific conference

ABSTRACT: The article reports on the First Conference of the Problem Committee on the Analysis and Synthesis of Speech called by the Ustav pro zakladni problemy techniky Polske akademie nauk (Institute for Basic Technical Problems of the Polish Academy of Sciences) for the 16th and 17th of January 1964, at Warsaw. Representatives of the scientific institutes of the Hungarian, German, Polish, and Czechoslovak Academies of Sciences and other research establishments concerned with this problem participated in the conference. The purpose of the conference was to determine the limits, forms, and methods of multilateral collaboration. The program included, on the one hand, the delivery of papers by members of the Polish work group, and on the other, communications of the representatives of the academies of

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ACCESSION NR: AP4047829

sciences on the state of research work in the field of the analysis and synthesis of speech in the individual countries. The following personalities took a leading role in the work of the conference: Doc. Dr. W. Jassem, director of the polish scientific establishments; Prof. J. Kacprowski, leader of the first work group; Dr. S. Schmidt, leader of the second work group; Prof. J. Seidler, leader of the third work group; Prof. Z. Zyszkowski, of the Wroclaw Higher Technical School; Prof. Freitag and Dr. Tscheschner, representing researchers of the German Democratic Republic; Prof. Tarnocz and Prof. Hoffmann, representing the Hungarian delegation; and finally, Dr. Borovickova, Engineer Malac, and Engineer Subert, of the Czechoslovak delegation. In the course of the discussions it was confirmed that the Czechoslovak concept of the analysis and synthesis of speech for utilization in the automatic identification of speech is most promising, inasmuch as the problems associated with the compression of the speech band has diminished in importance due to new telecommunications techniques involving the use of waveguides and lasers. Individual points of the idea program of scientific problems for speech research were analyzed and it was decided to recommend them for multilateral collaboration through 1964-65.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: GO, EC

NO REF SOV: 000 OTHER: 000

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L 13161-66 EWA(j)/EWA(b)-2 RO

ACC NR: AP6005685 SOURCE CODE: CZ/0079/65/007/002/0193/0195

AUTHOR: Vinar, O.; Bastecky, J.; Borovickova, B.; Zichova, M.; Malac, V.

ORG: Psychiatric Research Institute, Prague; Laboratory of Phonetics, Institute of Czech Language, CSAV; Research Institute of Electroacoustics

TITLE: Method of delayed auditory feedback in psychiatry [This paper was presented at the Third Interdisciplinary Conference on Experimental and Clinical Study of Higher Nervous Functions held in Marianske Lazne from 19 to 23 October 1964]

SOURCE: Activitas nervosa superior, v. 7, no. 2, 1965, 193-195

TOPIC TAGS: psychiatry, drug effect

ABSTRACT: The importance of speech functions in the investigation of psychic functions is discussed. The arrangement designed by the authors allows a person to hear his own voice with a delay of 1/10th of a second. Disturbances caused by this arrangement were investigated in healthy people, in healthy people under the influence of lysergic acid diethylamide, and in schizophrenics. Speed of reading, vocal intensity, frequency of errors, and activity of mimic muscles were registered. The results obtained by the authors seem suitable for the evaluation of psychiatric patients and psychotropic drugs. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 06, 05 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 006

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